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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,442	03/26/2004	Atsuhisa Nakashima	119265	8129

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EXAMINER	
MRUK, GEOFFREY S	
ART UNIT	**PAPER NUMBER**
2853	

MAIL DATE	DELIVERY MODE
12/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,442	NAKASHIMA, ATSUHISA	
	Examiner	Art Unit	
	Geoffrey Mruk	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 September 2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Grange (US 5,394,178).

With respect to claim 1, Grange discloses a printer maintenance apparatus for maintaining a printer having a print head, wherein the print head includes a nozzle surface in which a plurality of nozzles are formed, for ejecting ink droplets onto said printing medium for printing, the apparatus comprising:

- a mounting base (Fig. 1, element 12) that is movable forward and backward (Column 2, lines 44-46) between a maintenance position (Fig. 2) and a retraction

position (Fig. 1), the maintenance position in which the mounting base is opposed to the nozzle surface (Fig. 2, elements 16a, 16b) and the retraction position which the mounting base retracted from the print head (Column 1, lines 31-42);

- a wiping mechanism (Fig. 2, element 14) being mounted on the mounting base (Fig. 2, element 12) and including a wiper base (Fig. 2, element 14a) supported on the mounting base movably toward the nozzle surface and a wiper (Fig. 2, elements 18a, 18b) attached to the wiper base; and
- a capping mechanism (Column 3, lines 33-45) being mounted on the mounting base (Fig. 2, element 12) and including a cap base (Fig. 2, element 22) supported on the mounting base movably toward the nozzle surface and a cap (Fig. 2, elements 24a, 24b) attached to the cap base;
- wherein the cap base moves toward the nozzle surface to move the cap to cover the nozzle surface when the mounting base is at the maintenance position (Column 4, lines 47-57);
- the cap base moves retractably from the nozzle surface when the mounting base moves from the maintenance position toward the retraction position (Fig. 2, cams in element 22);
- the wiper base moves toward the nozzle surface relative to the mounting base (Fig. 2, rotation about element A) in order to bring the wiper into contact with the nozzle surface when the mounting base is at the maintenance position (Column 3, line 51 – Column 4, line 9); and

- the wiper base keeps the wiper in contact with the nozzle face while the mounting base moves backward from the maintenance position toward the retraction position (Column 3, line 51 – Column 4, line 9).

With respect to claim 2, Grange discloses the cap base (Fig. 2, element 22) has an engagement portion (Fig. 2, element 22a) which abuts against a fixed portion (Fig. 2, element 16) disposed in the printer, at a forward end of the maintenance position due to a forward motion of the mounting base to the maintenance position, to thereby move the cap base toward the nozzle surface and cover the nozzle surface with the cap (Column 4, lines 47-57).

With respect to claim 3, Grange discloses the wiper base (Fig. 2, element 14a) abuts against a fixed portion (Fig. 2, element 26) which abuts against a fixed portion (Fig. 2, element 16) disposed in the printer, at the maintenance portion due to a forward motion of the mounting base (Column 2, lines 44-46) to the maintenance position, to thereby move the wiper toward the nozzle surface and bring the wiper into contact with the nozzle surface (Column 3, line 51 – Column 4, line).

With respect to claim 4, Grange discloses the capping mechanism (Column 3, lines 33-45) includes a plurality of link members (Fig. 2, pins in element 22) each supported swingably at one end on the mounting base and supported swingably at the other end on the cap base (Column 4, lines 47-57).

With respect to claim 5, Grange discloses the capping mechanism (Column 3, lines 33-45) includes a cam groove (Fig. 2, cam in element 22) inclined to the nozzle surface and a pin slidable in the cam groove, and one of the cam groove and the pin is provided

in the mounting base (Fig. 2, element 12) while the other is provided in the cap base (Column 4, lines 47-57).

With respect to claim 6, Grange discloses the capping mechanism (Column 3, lines 33-45) allows the cap to leave the nozzle surface due to self-weight of the cap base in backward motion of the mounting base from the maintenance position to the retraction position (Fig. 2, disengagement of element 22a).

With respect to claim 7, Grange discloses the capping mechanism (Column 3, lines 33-45) includes an urging member (Fig. 2, element 22a) that urges the cap to leave the nozzle surface (Fig. 2, elements 16a, 16b).

With respect to claim 8, Grange discloses

- the wiping mechanism (Fig. 2, element 14) supports the wiper base swingably (Fig. 2, element A) on the mounting base (Fig. 2, element 12); and
- the wiping mechanism includes an urging member (Fig. 2, element 26) that swings the wiper base to bring the wiper into contact with the nozzle surface (Column 3 lines 51-64).

With respect to claim 9, Grange discloses

- the wiping mechanism includes a lever (Fig. 2, element 14a) supported swingably (Fig. 2, element A) on the mounting base (Fig. 2, element 12);
- the lever is swingable between a separation position and a wiping position, the separation position where the lever abuts against the wiper base to thereby swing the wiper base against urging of the urging member and make the wiper

leave the nozzle surface, the wiping position where the lever brings the wiper into contact with the nozzle surface (Column 3, line 51 – Column 4, line 9); and

- the lever (Fig. 2, element 14) is swung to the wiping position at a forward end due to a forward motion of the mounting base to the maintenance position.

With respect to claim 10, Grange discloses the wiping mechanism (Fig. 2, element 14) swings the lever (Fig. 2, element 14a) to the separation position at a backward end due to a backward motion of the mounting base.

With respect to claim 11, Grange discloses

- the wiping mechanism (Fig. 2, element 14) supports the wiper base (Fig. 2, element 14a) shiftably on the mounting base (Fig. 2, element 12);
- the wiping mechanism includes an urging member (Fig. 2, element 22a) that urges the wiper base to leave the nozzle surface;
- the wiping mechanism brings the wiper (Fig. 2, element 18a) into contact with the nozzle surface (Fig. 2, element 16a) due to a forward motion of the mounting base to the maintenance position; and
- the wiping mechanism shifts the wiper base by means of the urging member so as to make the wiper leave the nozzle surface (Column 3, line 51 – Column 4, line 9).

With respect to claim 12, Grange discloses a printer comprising:

- a print head (Fig. 2, elements 16a, 16b) including a nozzle surface that ejects ink droplets onto fed printing medium (Column 1, lines 19-27);

- a mounting base (Fig. 2, element 12) that movable forward and backward between a maintenance position (Fig. 2) and a retraction position (Fig. 1), the maintenance position in which the mounting base is opposed to the nozzle surface and the retraction position in which the mounting base is retracted from the print head (Column 1, lines 31-42);
- a wiping mechanism (Fig. 2, element 14) being mounted on the mounting base (Fig. 2, element 12) and including a wiper base (Fig. 2, element 14a) supported on the mounting base movably toward the nozzle surface and a wiper (Fig. 2, elements 18a, 18b) attached to the wiper base; and
- a capping mechanism (Column 3, lines 33-45) being mounted on the mounting (Fig. 2, element 12) base and including a cap base (Fig. 2, element 22) supported on the mounting base movably toward the nozzle surface and a cap (Fig. 2, elements 24a, 24b) attached to the cap base;
- wherein the cap base moves toward the nozzle surface to move the cap to cover the nozzle surface when the mounting base is at the maintenance position (Column 4, lines 47-57);
- the cap base moves retractably from the nozzle surface when the mounting base moves from the maintenance position toward the retraction position (Fig. 2, cams in element 22);
- the wiper base moves toward the nozzle surface relative to the mounting base (Fig. 2, rotation about element A) in order to bring the wiper into contact with the

nozzle surf ace when the mounting base is at the maintenance position (Column 3, line 51 – Column 4, line 9); and

- the wiper base keeps the wiper in contact with the nozzle surface while the mounting base moves backward from the maintenance position toward the retraction position (Column 3, line 51 – Column 4, line 9).

With respect to claim 13, Grange discloses the cap base (Fig. 2, element 22) has an engagement portion (Fig. 2, element 22a) which abuts against the fixed portion (Fig. 2, element 16) at a forward end of the maintenance position due to a forward motion of the mounting base to the maintenance position, to thereby move the cap base toward the nozzle surface and cover the nozzle surface with the cap (Column 4, lines 47-57).

With respect to claim 14, Grange discloses wherein the fixed portion (Fig. 2, element 16) is a lock portion that is disposed at the print head (Fig. 2, elements 16a, 16b).

With respect to claim 15, Grange discloses the wiper base (Fig. 2, element 14a) is vertically movable relative (Fig. 2, rotation about element A) to the mounting base (Fig. 2, element 12).

With respect to claim 16, Grange discloses the wiper base (Fig. 2, element 14a) is vertically movable relative (Fig. 2, rotation about element A) to the mounting base (Fig. 2, element 12).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Midorikawa (US 5,097,276) discloses an ink jet capping device and cleaning mechanism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM
12/1/2007

GM

STEPHEN MEIER
SUPERVISORY PATENT EXAMINER